

Challenge Practice

1. True. If the solutions of a quadratic equation are rational numbers p and q , then the quadratic equation can be written as $(x - p)(x - q) = 0$.

2. False. The quadratic equation $\left(x - \frac{b}{2}\right)^2 = d$ has two distinct irrational number solutions when d is positive and not a perfect square. 3. True. You can use the completing the square method to solve any quadratic equation. However, it is easier to solve the equation $2x^2 - 8 = 0$ by finding square roots.

4. $x = 5 \pm \sqrt{25 - c}; c > 25$

5. $x = -\frac{3}{8} \pm \sqrt{c + \frac{9}{64}}; c < -\frac{9}{64}$

6. distance between Mountain View and Capital City: about 382.5 mi; distance between Rapid City and Capital City: about 221.5 mi